

## Learning Menu

Empowering students through  
CHOICE while ensuring adherence  
to important LEARNING GOALS

## What are Learning Menu

- Learning menus outline a variety of instructional options targeted toward important learning goals.
- Students are able to select the choices which most appeal to them.
- The teacher directs the menu process, but the student is given control over his/her choice of options, order of completion, etc.

## KINDS of MENUS

- MENU: *Main Dishes, Side Dishes, and Desserts* (for younger learners).
- AGENDA: *Imperatives, Negotiables, and Options* (for older learners).
- THINK TAC TOE: Complete a row, column or diagonal line of activities.

*All three options can be differentiated according to interest, learning profile, or readiness (see enclosed examples).*

## MENU PLANNER



Menu for: \_\_\_\_\_ Due: \_\_\_\_\_

*All items in the main dish and the specified number of side dishes must be complete by the due date. You may select among the side dishes and you may decide to do some of the desserts items, as well.*



### Main Dishes (complete all)

1

2

3

4



### Side Dishes (Select \_\_\_\_\_)

1

2

3

4



### Desserts (Optional)

1

2

3

## MENU CONTRACT

"Probability"

Due: \_\_\_\_\_

*All items in the main dish and the specified number of side dishes must be complete by the due date. You may select among the side dishes and you may decide to do some of the desserts items, as well.*



### Main Dishes (complete all)

1

Complete the "meteorology simulation" on p. 88-89 of your textbook.

2

Create a list of 10 pairs of events. 5 pairs should contain events that are *dependent*; 5 pairs should contain events that are *independent*. Explain each classification.

3

Complete the "frequency table" assignment on p. 506-507 of your textbook.

4

Examine the attached list of functions and determine which functions represent probability distributions.



### Side Dishes (Select 2)

1

Work with a partner to analyze the game of "Primarily Odd." See your teacher for game cubes and further instructions.

2

Design a "game spinner" that has this probability distribution:  $P(\text{red}) = 0.1$ ;  $P(\text{green}) = 0.2$ ;  $P(\text{blue}) = 0.3$ ;  $P(\text{yellow}) = 0.4$ .

3

Suppose a dart lands on a dartboard made up of four concentric circles. For the center of the board (the "bull's eye"),  $r=1.5$ ; the remaining rings have widths of 1.5. Use your understanding of area and probability to determine the probability of 1) hitting a "bull's eye" and 2) landing in the outermost ring.



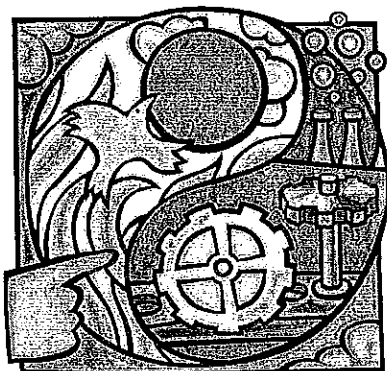
### Desserts (Select 1)

1

Figure the probability of "Murphy's Law" and make a case for whether or not it should indeed be a "law."

2

Use a frequency table to chart the colors that your classmates wear for a week. Then, use probability to predict how many students will wear a certain color on a given day.



## Science Agenda on Chemical Problems in the Environment

### *IMPERATIVES* (You *must* do each of these...)

1. Select a chemical problem in the environment and
  - Define and describe the difficulties it presents
  - Be sure to discuss why, where, and to whom/what

Your choices are:

- Global warming/Greenhouse effect
  - Ozone depletion
  - Acid Rain
  - Air Pollution
  - Water Pollution (including thermal pollution and land/ground pollution)
2. Complete a map showing where the problem exists, what/who is affected by it, and the degree of impact
  3. Develop a talking paper that describes present and future solutions, as well as your recommendations.

**NEGOTIABLES** (You *must* do at least one of these...)

1. Determine the approximate costs of the problem of one badly affected region and develop a graphic that shows total costs and what makes the costs (for example: Health costs, clean-up costs, lost revenues from land, etc.)
2. Develop a timeline of the evolution of the problem over the last 100 years, including significant dates, and factors that contributed to the change. Take the timeline into the future based on your current understanding of trends associated with the problem.

**OPTIONS** (You may do one or more of these...)

1. Create a Gary Larson-type cartoon or an editorial cartoon that makes a commentary on the problem.
2. Prepare a fictionalized account, but based on scientific fact, of a person who lives in a badly affected area. Your goal is to put a human face on the problem.
3. Develop a 60-second public service announcement (taped) to raise audience awareness of the problem and introduce positive actions citizens might take to improve the prognosis for the future.

**LESSON TITLE: The Pythagorean Theorem**

**Lesson 4**

**Curriculum Area: Pre-Algebra**

**Authors: Susan Bray, Sally Becker, Andrea Esperat**

**Grade Level: 8**

**Time Required: 90 minutes**

**Instructional Grouping: Heterogeneous**

**1. Overview of Lesson:**

**Today students will contract with the teacher for independent practice and extension through their choices on a Think Tac Toe board. Students will select their activities today and begin their work. The contracts will be continued at home and completed during the first part of the next class period.**

**2. Materials:**

**Think Tac Toe sheets for every student.**

**3. As a result of this lesson students should:**

**(a) know...**

- **The Pythagorean Theorem states that in a right triangle, the square of the length of the hypotenuse is equal to the sum of the squares of the lengths of the legs ( $c^2 = a^2 + b^2$ ).**
- **In a right triangle, the hypotenuse is the leg opposite the right angle.**
- **The hypotenuse is the longest side of the right triangle.**

**(b) understand...**

- **The Pythagorean theorem was developed and used in ancient times and is still an integral tool today.**
- **The relationship between the three sides of a right triangle.**
- **The Pythagorean Theorem works only for right triangles.**

**(c) be able to do...**

- **Use measurements to test the Pythagorean Theorem.**
- **Apply the theorem to solve practice problems.**
- **Recognize when to use the Pythagorean Theorem.**

**4. Pre-assessment:**

**5. Steps in Lesson:**

- 1) The teacher will pass out Think Tac Toe sheets to every student.**
- 2) The teacher will explain the activity choice in each square.**
- 3) Just as in the "real" Tic Tac Toe game, students will select a line of three activities (3) to complete by the middle of the next class period.**
- 4) Teacher will guide students as needed for the remainder of the period.**

**6. What is differentiated and how?**

- **The content is differentiated by increased complexity in the right-hand column.**
- **The process is differentiated by student interest (choice) and learning style.**

**7. Practical Hints for Implementation:**

- **Students will need clear directions and ready access to materials for all nine squares.**
- **You may want to steer your more advanced students toward the far right column.**

**\*Attachments:**

- **Think Tac Toe master**
- **Directions for each square**



**Think Tac Toe**  
**The Pythagorean Theorem**

***Directions:*** Complete the activities described in either one vertical or one diagonal row.

<b>Draw a right triangle and label the right angle, legs, and hypotenuse. State the relationship of the sides of a triangle.</b>	<b>Name a career in which one would have to use the Pythagorean Theorem. Give an example of when, where and how it would be used.</b>	<b>Design a teaching tool with a diagram of a proof of the Pythagorean Theorem. Label it for all to understand.</b>
<b>Complete all of the EVEN Practice Problems on p. 266 of your Prentice Hall text.</b>	<b>Complete the Practice Problems found at this site: <a href="http://regentsprep/Regents/math/fpyth/PracPyth.htm">http://regentsprep/Regents/math/fpyth/PracPyth.htm</a></b>	<b>Create four (4) real world problems that would need the use of the Pythagorean Theorem. Show the solutions.</b>
<b>Determine a set of 8 Pythagorean "TRIPLES." Prove them with equations.</b>	<b>Write a descriptive essay about Pythagoras: his life, accomplishments, and failures.</b>	<b>Find another mathematical theorem. State it, diagram its proof, and write a paragraph about why, how and where it works.</b>

## **To Kill a Mockingbird Vocabulary K-U-D's**

***As a result of this activity, students will...***

### **...KNOW...**

- ...the definitions of vocabulary words that are important to understanding assigned character's perspective.

### **...UNDERSTAND...**

- ...that words have "personalities."
- ...that words enrich our ability to communicate.
- ...that words have family relationships with other words.

### **...BE ABLE TO...**

- ...use personification and/or sense imagery to describe vocabulary words.
- ...use vocabulary words to discuss the novel's action and/or characters.
- ...group words according to similar roots, derivations, and meanings.

## Vocabulary Contract

**Directions:** As you read *To Kill a Mockingbird*, you will encounter certain vocabulary words that are important to your character in some way. These words are included in your packet. To increase your insight into your assigned character, you will become an expert in these important terms in the following ways:

1. Before you read each assigned section, you should look up and define the words for that particular section (two words per section). If you're already familiar with those words, you are free to propose alternates.
2. Be on the "look-out" for those words' occurrence in your reading. Next to your definitions, record the sentence that uses that word.
3. Complete one of the vocabulary activities below at each of the following points in your reading:

- **After Chapter 6** (for chapters 1-6) –  
**Your choice of a square, an oval, or the triangle.**
- **After Chapter 12** (for chapters 7-12) –  
Your choice of a square, an oval, or the triangle  
**(a different shape than you did after chapter 6).**
- **After Chapter 17** (for chapters 13-17) –  
Your choice of a square, a circle, or the triangle  
**(a different shape than you did after chapter 6 or 12).**
- **After Chapter 23** (for chapters 18-23) –  
A second (new) square or circle of your choice  
**(an activity that you have not already completed).**
- **After Chapter 31** (for chapters 1-31) –  
**WORD SORT (Description sheet attached)**

- The *Activity Menu* is attached (page 2). Please look through the activities and decide which options appeal to you the most.
- To help yourself plan and keep track of the activities you complete, please complete the attached *Contract Agreement* (page 3) and return it to your teacher.

# VOCABULARY CONTRACT

## Activities Menu

**Directions:** You must complete one of the activities below at the check points listed on the previous page. Consult the directions (also on the previous page) to ensure an appropriate combination of "shapes."

### Personification Poem

Write a

"Personification

Poem" for each

### MAKING SENSE

Answer and explain in detail the following questions about EACH of the four words in this section:

1. If this word were a color, which would it be and why?
2. If this word were a

### WILD ABOUT WORDS

Pretend each of these words is an animal. Think about which animal would best

### FOIL-LOGUE

Use these 4 words correctly in a new dialogue you write that takes place between your character and his/her "foil." This dialogue can be from an existing portion of the

Alternate: You may complete this activity in the form of a comic strip with captions.

### Obituary

Pretend that your character has died during this portion of the novel. Write an obituary that would appear in the *Maycomb Examiner*. The obituary should use these 4 words correctly to vividly describe your character and/or the circumstances of his/her death. See your teacher for sample

### Absentee Note

Your classmate (who is studying your same character) has just returned from an extended illness. In a two-paragraph summary, explain to him/her what has happened to your character thus far in the novel. Be sure to use your 4 vocabulary words correctly and in

### Word Study

(Required) – See attached description sheet.

### Word Sort

(Required after Chapter 31) See attached description sheet.

## Vocabulary Contract Agreement

Please complete, sign, and turn in to your teacher at the beginning of the novel study. You are free to make changes to the plan as you go, but be sure to apprise your teacher of all plan revisions.

Directions: Draw the shape and write the title of the activity you plan to complete at each of the assigned "check points."

Ex> Check Point 1:

Making  
Sense

Check Point 1 (after Chapter 6):

Check Point 2 (after Chapter 12)

Check Point 3 (after Chapter 17)

Check Point 4 (after Chapter 23)

Check Point 5 (after Chapter 31): REQUIRED—"Word Sort"

### Check Yourself

Do you have...

- ...at least one oval?
- ...at least one square?
- ...a second (different) oval OR square?

I, the undersigned, do hereby agree to complete the activities listed above at the appointed checkpoints. I understand that, if I wish, I can alter my plan with

